

Report on The Food Waste Recycling Pilot Project

2018-2020



Roinn Cumarsáide, Gníomhaíthe
ar son na hAeráide & Comhshaoil
Department of Communications,
Climate Action & Environment





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Executive Summary

The Food Waste Recycling Project is an initiative of Cr  (Composting & Anaerobic Digestion Association of Ireland), the Regional Waste Management Planning Lead Authorities Connacht Ulster, Eastern Midlands, Southern (WMPLA) and the Irish Waste Management Association. It was funded by the Department of Communications, Climate Action and Environment (DCCAE).

The report "National Brown Bin Awareness Pilot Scheme in Sligo City" highlighted that the provision of a range of educational and collection tools could improve the capture and quality of food waste in the food waste recycling bin. The Sligo pilot project confirmed that there are real gains to be made in using the food waste bin correctly and identified some really practical steps which could be useful for other towns to adopt.

Building on the findings of that report and learnings from the collaborative approach used to create "Recycling List Ireland", a working group was formed to look at standardising awareness and education of the food waste bin.

The working group membership included Cr , the IWMA (Barna Recycling & Clean Ireland Recycling), the Regional Waste Management Planning Offices and the Department of Communications, Climate Action & Environment.

The aims for standardising the awareness and education for the food waste recycling bin are:

1. Increase uptake and encourage participation.
2. Reduce contamination.
3. Create a social norm.


After a number of meetings, the working group designed three trials to test the effectiveness, cost and logistics to providing householders with communication and practical tools to increase participation in separating food waste. These tools included a kitchen caddy, a supply of paper liners, informational stickers and an explanatory leaflet.



The key outcomes of the trials were:

- Widespread positive acceptance by participants of the tools provided.
- Households with a food waste bin already further increased their participation.
- Collectors in Trim reported an increase in tonnage of food waste presented during the pilot project of between 20 and 25%.
- Contamination in Ballaghaderreen decreased by over 56% (8.5 % to 4.5%) and presentation rates of the food waste increased by 20%.
- In Buncrana, 598 households were provided only with a sticker on the residual bin and it was determined that this increased participation and tonnage of food waste collected.
- The IWMA, DCCAE, Cr , and the WMPLA are to review this report to determine if the findings could be emulated to all households.





"I ONLY RARELY USED MY BROWN BIN PRIOR TO THIS STARTING AND NOW IT'S USED AS MUCH IF NOT MORE THAN MY WASTE BIN"

An online customer survey was conducted of Panda customers residing in Trim to gauge their interaction with the project and their views on the effectiveness of the communication tools and the householder pack.

- 96% of respondents found the information leaflet to be clear and helpful and 93% found the caddy sticker helpful and informative.
- No respondents felt that the residual bin sticker (no food waste please) stopped them placing food waste in the residual bin.
- In relation to the caddy and liners, 81% of respondents found the caddy helped enormously in the separation of food waste and 76% said the liner helped.
- The paper liners were not as popular as bio-plastic alternatives: 54% of respondents used all the bags supplied and bought additional supplies to continue using the caddy. When purchasing additional bags, bio bags were favoured by 60% of respondents.
- 82% of respondents would prefer to see the caddy liner bag being supplied by their waste contractor to ensure a continuous supply and 75% would be willing to pay for this service if it was cheaper than purchasing the liners in a supermarket.

In 2019, 53% of all households in Ireland are serviced with a full three-bin collection system, which includes the separate collection of food/bio-waste. However, during this same period only 75% of households with the service are actively engaged. 25% of households did not present their food waste bin at all during the previous quarter. Although the rollout of the separate collection of household food waste is now over seven years old and well-established it would appear that some citizens have limited understanding of the importance of why it is necessary to separate food waste.

During these trials, citizens in the pilot towns re-engaged and as a result presented more and less contaminated food waste. This comment perhaps sums this up: "I only rarely used my brown bin prior to this starting and now it's used as much if not more than my waste bin"

It is the opinion of the working group that the communication tools developed during this pilot project are useful and engaging and there is great merit in pursuing a wider distribution of these materials.

The kitchen caddy and liners had a significant impact on behaviour in the pilot– the caddy is a visual reminder to separate at source. The liners play a big role – alone they reduce or in some instances eliminate the "yuck" factor in source segregating food waste. We know from previous trials and customer feedback that behaviour can revert if a caddy or food waste bin gets dirty and smelly – maintaining cleanliness is an important driver for householders. We were surprised at the number of householders that ranked the liner as very important, replaced their supply with store bought liners when they ran out and continued to participate.

The paper liner was not universally liked, householders found it difficult to insert in the caddy, and claimed it had the potential to leak. Overall customers preferred to use a "bio plastic" liner.

The sticker on the residual bin appears to have been a less effective reminder to source segregate food waste than the householder pack for use within the home. It leads the working group to the conclusion that the drivers for the source segregation of food waste must be internal to the home. Reminders on an external bin are ineffective because the action of segregation has already taken place.

Another unique part of this trial was the source of messaging. From the outset the Working Group believed in the importance of the message coming from the waste service provider to their customer. We believe this led to more householders participating in the trial than if it had been conducted by a third party such as the local authority.

Recommendations from the Working Group

1. Every new customer signing up to a waste collection service is provided with a kitchen caddy, a starter pack of liners and an information toolkit comprising of an instructional leaflet and associated bin stickers.
2. The information toolkit is revised and distributed to all existing customers eligible for a separate food waste collection;
3. Some waste collectors supply liners at cost price to customers, we would like to see this expanded to all waste collectors so that cost isn't a prohibitive issue for customers. This recommendation could, if implemented lead to less contamination as it reduces the number of householders using plastic bags or non-certified bio bags to line caddies or bins;
4. Where possible waste collectors incentivise their customers to segregate food waste – we would like to encourage collectors to subsidise the household pack and to provide this at a nominal fee to householders. The cost of the pack for this small pilot was €5.14 per household. This cost could be substantially decreased if procured in larger quantities. If a pack could be subsidised and supplied to a householder for €2.50 it would be an attractive offering. Additionally waste collectors have the ability to distribute the pack directly thereby reducing the financial cost of procuring distribution services.
5. We recommend that every waste collector be assisted by the *My Waste* Team to develop a communications campaign to engage with householders on why and how to separate food waste effectively. Communications with customers are recommended on a weekly basis. This would include emails, text alerts and letters. Additionally we believe that positive customer feedback could yield some additional behavioural changes. For example if waste collectors could communicate increases in tonnage or decreases in contamination directly with their customers we believe this would contribute significantly to customers continuing to participate positively with the separation of food waste.
6. The IWMA, DCCAE, Cré, and the WMPLA are to review this report to determine if the findings could be emulated to all households.



WE RECOMMEND THAT EVERY WASTE COLLECTOR BE ASSISTED BY THE MY WASTE TEAM TO DEVELOP A COMMUNICATIONS CAMPAIGN TO ENGAGE WITH HOUSEHOLDERS ON WHY AND HOW TO SEPARATE FOOD WASTE EFFECTIVELY.





1. Introduction:

The Project:

The Food Waste Recycling Project was an initiative of Cré (Composting & Anaerobic Digestion Association of Ireland), the WMPLA (Connacht-Ulster, Eastern-Midlands and Southern) and the Irish Waste Management Association. The Department of Communications, Climate Action and the Environment funded the project. The impetus for the project came from a number of sources including the 2015 Sligo National Brown Bin Awareness Pilot Scheme, results from the EPA 2018 National Waste Characterisation study and obligations set out in the regional waste management plans 2016-2021. The project ran from April 2018 to March 2020.

The legislative Impact:

The European Union (Household Food Waste and Bio-waste) Regulations 2015, (initial legislation introduced in April 2013) built on the commercial food waste regulations introduced in 2009. These regulations are designed to promote the segregation and recovery of household food waste, in line with national policy and the Waste Framework Directive. The Regulations will also facilitate the achievement of the targets set out in the Landfill Directive (Directive 99/31/EC) for the diversion of biodegradable municipal waste from landfill sites, by directing source-segregated household food waste to composting and to other forms of treatment.

The Regulations impose obligations on both householders and waste collectors. Householders are obliged to segregate their food waste, and make it available for separate collection. Alternatively, householders may compost the food waste at home; or bring it themselves to authorised treatment facilities (such as civic amenity or anaerobic digestion sites).

In accordance with the regulatory impact assessment prepared for these regulations, the rollout of the third food/bio-waste bin was phased in as follows:

Date	Population Centre Size
01/07/13	25,000
31/12/13	20,000
01/07/14	10,000
01/07/15	1,500
01/07/16	500



Background:

The report "National Brown Bin Awareness Pilot Scheme in Sligo City" highlighted that the provision of a range of educational and collection tools could improve the capture and quality of food waste in the food waste bin. The Sligo pilot project confirmed that there are real gains to be made in using the food waste bin correctly and identified some practical steps, which could be useful for other towns to adopt.

The Waste Enforcement Regional Offices (WERLA's) have been consistent in enforcing the roll out of separate collection for food and bio-waste since 2018 as a national waste priority. During the drafting of this report (April 2020), the NWCPO supplied the following data for quarters one and two 2019:

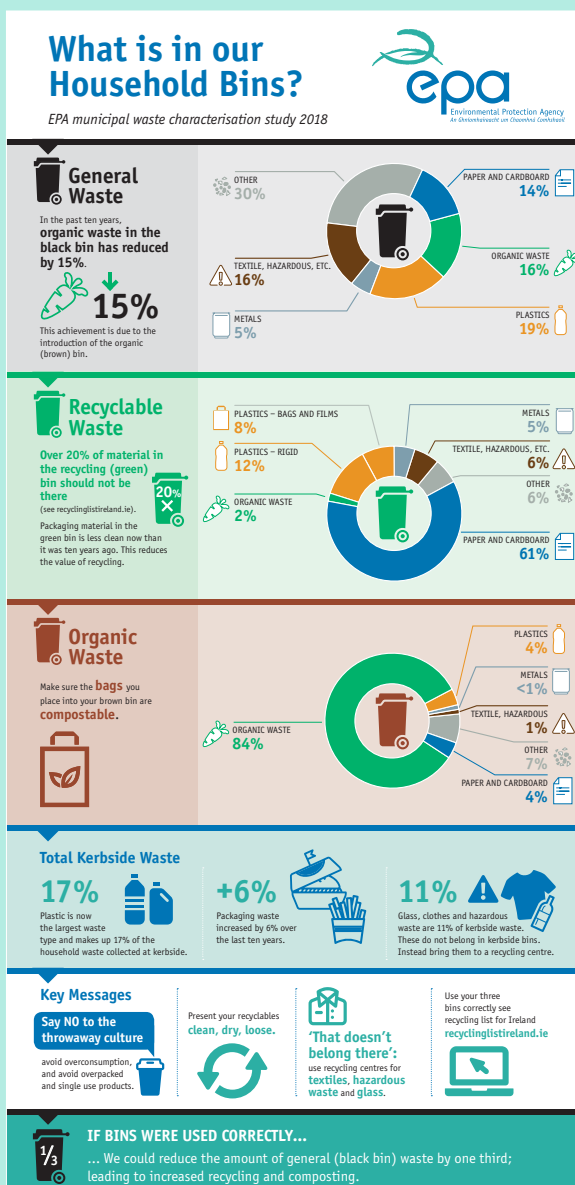
Table 1. Households with access to a Food Waste Collection Service.

No of households serviced by Kerbside Collection	1,311,899
No of households with Food & Bio-waste Collection	773,068
No of households engaging with the service *	581,390

*Engaging with the service is defined as a customer presenting a food waste bin at least once in the previous quarter.

From the data above 191,678 or 25% of households did not engage with the separation of food waste by presenting the food waste bin at least once in the previous quarter despite having access to this service. Additionally of the 75% of households that use the service more data is required to understand how well and often these households participate.

A national waste characterisation study was conducted in 2018 on behalf of the Environmental Protection Agency. Previous studies prior to this were conducted in 2008. Comparatively there was a significant reduction in organic waste presented in the household residual waste stream in the 2018 characterisation versus the 2008 study. This can be attributed to the extensive rollout of the third bin (food waste/bio) during this period in compliance with the Food Waste Regulations 2013. The 2018 characterisation found that 17% of all organic waste presented by households was in the wrong bin i.e. either presented in the residual or recycling waste stream.



Source: EPA

An additional finding of the characterisation study is that 16% of material in the Food Waste/Organic bin is incorrect. For example, evidence of plastic and glass packaging, textiles and hazardous waste were all found in the food waste/organic bin.

Building on the findings of the Sligo report and learnings from the collaborative approach used to create "Recycling List Ireland", a working group was formed to look at standardising awareness and education of the food waste recycling bin. Membership of the working group included Cré, IWMA members - Barna Recycling & Clean Ireland Recycling, the WMPLA's and the DCCAE.

The aims for standardising the awareness and education for the food waste recycling bin are:

1. Increase uptake and encourage participation.
2. Reduce contamination.
3. Create a social norm.

2. The Food Waste Working Group:

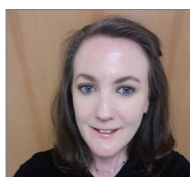
An initial committee was established to scope out this project. The original members of this were:



Jonathan Cullen
DCCAE



Sorcha Byrne
DCCAE



Aideen Barrett
Barna Recycling



Percy Foster
Cré



Brian Lyons
Clean Ireland



Pauline McDonogh
Southern RWMO



Declan Breen
Eastern Midlands RWMO



Sinead ni Mhainnin
Connacht Ulster RWMO

After an initial meeting, it was agreed that the IWMA should be formally invited to nominate representatives to participate on behalf of the industry. Brian Lyons of Clean Ireland was nominated alongside Aideen Barrett of Barna Recycling to represent the industry.

A representative from DCCAE was also invited to participate in the working group and Sorcha Byrne initially represented DCCAE, replaced in 2019 by Jonathan Cullen.

3. Rationale

Despite the introduction of legislation in 2013, the rollout of a third bin for the separate collection of food and bio waste in some parts of the country was very slow until this issue became a waste enforcement priority in 2018.

IWMA members have also reported that presentation of organic/food waste bins remains very low and on average ranges between 30% and 50%. Despite the availability of the service to householders, many have never used it at all and a significant additional proportion initially engage but subsequently cease to participate. There is now evidence from both the Sligo Brown Bin Awareness Pilot and the EPA National Waste Characterisation to indicate that citizens are not currently engaging properly with their legal obligation to segregate this waste. From Table 1 (p.8) greater than 191k households nationally did not present their food waste bin for collection at all during the previous quarter.

From a citizen perspective there appears to be a number of barriers:

- A lack of knowledge in relation to obligations;
- A lack of awareness and understanding around what food waste is;
- A lack of clarity on how to manage food waste so that the bin remains clean and odour free;
- A lack of understanding that food waste must be separated from packaging.

From a waste collector perspective, there are a number of considerable issues:

- Waste licences and capacity: Each collector has to adhere to strict waste licence limits set by the EPA for residual waste – ensuring food waste is source segregated assists with compliance in relation to this issue;
- Source segregation is considered acceptable as pre-treatment;
- Reducing contamination of the food waste stream is cost effective as it requires less treatment before processing;
- Providing a service that is not being adequately utilised is financially inefficient. Collectors invested significantly in equipment, bins and personnel to provide this service.

All of the above issues contributed to the willingness of the main actors to work collectively on a pilot project with one **single aim** –

TO INCREASE THE QUALITY AND QUANTITY OF FOOD WASTE SEPARATED BY HOUSEHOLDERS IN THE PILOT TOWNS.

This project also presented an opportunity to test new communication tools and assess their effectiveness in eliminating existing barriers to householders participating more fully in food waste segregation.



4. Overview of Methodology:

At a working group meeting held in May 2018, the issues to be tackled were explored and a common goal was agreed:

INCREASED AND CONTINUED PARTICIPATION BY THE CITIZEN IN USE OF THE FOOD WASTE RECYCLING SYSTEM.

With access to waste collector data about current participation rates and customer feedback. We were also able to draw on the knowledge learnt throughout the Sligo pilot to guide the development of the project.

Our deliberations concluded that we lacked adequate insight about behaviour in relation to food waste, food waste disposal and the tools that would effectively challenge negative behaviour and non-participation. We were aware of an extensive behavioural change programme underway in Northern Ireland led by the Waste Resources Action Plan (WRAP) so the committee contacted WRAP to explore opportunities to gain insights from this project that could influence our work. Coincidentally the working group felt that any new communications campaign about food waste segregation needed a fresh approach. We agreed to conduct a mini competition to look at a new communications campaign to boost participation in food waste recycling.

Three companies were invited to develop their ideas about how to communicate messages that would encourage householders to participate fully in the separation of food waste.

WRAP NI was commissioned to hold a communications and behavioural change workshop for the Food Waste Working Group and this took place on 3rd June 2018.

The WRAP workshop proved most beneficial to the Working Group. It highlighted common issues such as:

- Poor understanding about what food waste is;
- Common misperceptions about managing a third bin;
- Understanding the motivators that will engage different demographics;
- The importance of positive messaging so that citizens understand their role as important leading to consistent engagement.



On foot of the workshop, the Working Group decided to pursue the following approach:

- i. Conduct the pilot project in four towns with population sizes of approximately 500, 1500 and 10,000. It was agreed that the towns chosen should already have a food waste recycling service and the IWMA located the areas and contacted the relevant waste collectors. The areas chosen were:

Town	Population	No of households in pilot	Participating Waste Collectors
Trim	9194	3115	Panda, AES, Thornton's
Ballaghaderreen	1808	754	Barna Recycling, WERS Waste
Borrisoleigh	708	294	AES, Ryan Brothers, Clean Ireland
Buncrana	6839	600	Logan Waste

Table 2: Pilot Towns for Food Waste Trial

- ii. All communications to highlight benefits and positives of participating in segregating food waste. Such benefits contribute to climate action, green jobs and Irish circular economy products.
- iii. Project terminology was agreed and included referring to the third bin as the "Food Waste Recycling Bin" rather than the organic/compost/ brown bin which currently causes confusion;
- iv. All households in the top three participating towns to receive a "Household Pack" which would consist of a kitchen caddy, a supply of liners for the caddy and an information leaflet and sticker. We decided to expand the parameters of the pilot further to incorporate paper liners for the kitchen caddy. This decision was made by the working group on the basis that most householders are not aware of the importance of using a liner that is fully compostable and there was an additional opportunity here to get feedback on a paper liner versus a bioplastics option;
- v. Additionally, the working group agreed that, in order to accurately test the effectiveness of the communication tools, it would be important to carry out a further intervention in another 'control' location. In this case, householders would only get the residual bin sticker and not the household pack. This would allow us to track the effectiveness of tools within the household to separate food waste versus a simple message on the bin. The IWMA agreed that this separate and important trial would take place in Buncrana, Co. Donegal.
- vi. The Southern Region Waste Management Office conducted the procurement on behalf of the working group. This consisted of purchasing the elements of the household pack, design of communication tools and distribution of packs and stickers.

5. Ballaghaderreen, Co Roscommon:

The rollout of the pilot project commenced in Ballaghaderreen, Co Roscommon in November 2019. The primary waste collector in this area is Barna Recycling and as a member of the working group was ideally placed to flag any unforeseen issues before engaging with waste collectors outside of the working group.

Barna Recycling services the majority of households in Ballaghaderreen with the remainder serviced by WERS Waste.

Cré conducted a waste characterisation of food waste presented by Barna Recycling customers before the trial began. The characterisation focused on weights presented and levels of contamination.

The methodology followed for rollout was:

- A letter was sent from Barna Recycling to each customer explaining the purpose of the project and alerting the customer that the household pack would be delivered;
- Barna Recycling utilised their own personnel to deliver the household pack to every household in Ballaghaderreen and to place the “No Food Waste” sticker on the Barna Recycling bins;
- WERS Waste, also operating in Ballaghaderreen placed the sticker on their customers residual bins;
- Customer service agents in both companies were advised about the project.
- Barna Recycling issued regular text messages to customers urging them to participate.
- Cré conducted a follow up waste characterisation after three months.
- An online survey of Barna Recycling customers was carried out after three months; customers were asked their views and opinions on the trial.



THE BALLAGHADERREEN PILOT RESULTS ARE VERY ENCOURAGING. CONTAMINATION OF FOOD WASTE FELL BY 56% AND PRESENTATION OF FOOD WASTE IN THE FOOD WASTE RECYCLING BIN INCREASED BY 20%.

The food waste presented was visibly improved – less packaging was evident and the material was much wetter.



6. Trim, Co Meath

The rollout of the project in Trim Co Meath was conducted in November 2019. The number of households within the town curtilage is 3054 and three collectors service these: Thornton's, AES and Panda. Similar to Ballaghaderreen customers were issued with a letter from their collector advising them that a pilot project was about to commence in the town and that they would receive their household pack and bin sticker shortly.

An external contractor, Waste to Zero, was procured to undertake the bin stickering and caddy delivery part of this project. This took place over a four-week period.

The household pack was delivered first, 3012 households received the pack, and eight refused it. A further 95 households had front doors which opened on to the street and during delivery of the packs these households did not respond when called to. Packs could not be left on the path as they presented a trip hazard or could have blown into the street.

Placing the sticker on the residual waste bin proved quite challenging. On the first attempt, 959 properties were completed. A fortnight later, a further 751 households were completed representing 54% of all households in Trim.

Similar to Ballaghaderreen the pilot rollout in Trim yielded good results with an increase in food waste presentation of between 20 and 25%. Contamination was reduced and a significant reduction of plastic in particular making the screening of the product easier and quicker for the collectors.

In February 2020, we issued a customer survey to Panda Waste customers residing in Trim to gauge their interaction with the project and their views on the effectiveness of the communication tools and the householder pack. The results are both informative and positive.

In relation to the communication tools, 96% of respondents found the information leaflet to be clear and helpful and 93% found the caddy sticker helpful and informative.

No respondents felt that the residual bin sticker stopped them placing food waste in the residual bin.

In relation to the caddy and bags, 81% of respondents found the caddy helped enormously in the separation of food waste and 76% said the liner helped.

In relation to the bags, respondents provided some additional and interesting information: 53% of respondents used a new liner every 3 days, 10% every seven days and 30% every day.

The paper liners were not as popular as bio-plastic alternatives: 54% of respondents used all the bags supplied and bought additional supplies to continue using the caddy. When purchasing additional bags, bio bags were favoured by 60% of respondents.

82% of respondents would prefer to see the caddy liner bag being supplied by their waste contractor to ensure a continuous supply and 75% would be willing to pay for this service if it was cheaper than purchasing the liners in a supermarket.

The sticker on the residual bin 'No Food Waste Please' reminded 76% of people to dispose of food waste in their food waste bin during this trial. However, the sticker on the residual waste bin appears to be the least effective tool to encourage people to recycle food waste. When people in the pilot trial were asked, which tool encouraged them to recycle food waste the response was:

- 61% said it was the kitchen caddy and compostable bags
- 9% said the information leaflet
- 3% said the sticker on the residual bin
- 11% said because it's the law
- 15% because it saves money



A member of the Waste to Zero Team delivering household packs in Trim Co Meath

7. Buncrana Co. Donegal

The inclusion of Buncrana, Co Donegal came during the mid-way point of project rollout. At this stage in both Trim and Ballaghaderreen, householders were providing positive feedback on the householder pack but limited or no feedback on the residual waste bin sticker.

The bin sticker was an integral part of the communication pack and in theory could prove to be very cost effective if successful. To test this we decided to add a further dimension to the pilot project. This involved only placing the sticker on the residual bin in another location and monitoring any changes to waste presentation. Logan Waste, Co Donegal agreed to be part of the trial and suggested that the bin route in Buncrana, which services 600 households, could be used.

Again, a private contractor, in this instance Donegal Event Management, was procured to sticker the residual waste bins. This work was completed in January 2020 with 598 residual waste bins being stickered. Donegal County Council issued a number of press releases about the project and information was placed on the websites of Logan Waste and Donegal County Council.

Logan Waste has previously reported issues with householders refusing or not engaging with the service.

The waste contractor supplies monthly updates to Donegal County Council and since the bin sticker project commenced Logan Waste has seen an increase in the total number of household waste customers availing of the food waste service in the Buncrana agglomeration along with an increase in the tonnage of food waste collected from household customers each month.

Logan Waste was unfortunately unable to quantify in real terms the impact of the residual waste bin sticker. The company was engaged in an extensive customer communications programme to encourage take up of the food waste recycling service at the same time as the sticker rollout. However, management at the company was complimentary of the public relations campaign to encourage participation.



8. Borrisoleigh Co Tipperary

Borrisoleigh, Co Tipperary was also part of the pilot project. Two waste collectors operate in this town - Clean Ireland and Ryan Brothers.

The rollout followed the same pattern as the other towns; householders first received a letter from their waste contractor telling them about the project, that the delivery of the householder pack would commence the following week along with stickering the bins.

Again, Waste to Zero was contracted to carry out the householder pack delivery and bin stickering in Borrisoleigh, Co Tipperary. This work took place in early February 2020. There are 326 households in the town, household packs were delivered to 283 homes, there were four refusals and a further 39 could not be delivered as householders were not present on the day and the property opened directly onto the footpath. Residual waste bin stickering proved as problematic in Borrisoleigh as it was in Trim. Waste to Zero made two attempts over a period of one month and only achieved a success rate of 44%.

In Borrisoleigh, the primary waste collector is Ryan Brothers, Waste Recycling Services. The town has been serviced with a food waste kerbside collection for a number of years so customers are well used to participation. Interestingly the initial letter from the collector to the householder presented some confusion with customers actively seeking clarification as to why they were receiving a household pack at this stage.

Once assured by Customer Service agents that this was a pilot to help assist with further separation of food waste all customers were happy to proceed.

Additionally some customers presented the kitchen caddy at the kerbside and again customer service intervention was required to rectify this action.

The trial period in Borrisoleigh unfortunately coincided with the national Covid-19 pandemic lockdown. Food waste presentation rates were higher in Borrisoleigh during this period but it is difficult for the waste collector to determine if this is due to more food purchased and consumed at home or because of the household pack.

In Borrisoleigh, there were no complaints about the paper liner and it was evident from kerbside collections that the households that received them put them to proper use.

9. Project Costings

In 2019, the WMPLA were awarded a budget of €20k from DCCAE to develop the communication tools, procure the household packs and delivery services. This was further supplemented by €20,000 from the national waste awareness budget, which is also managed by the WMPLA.

Project management costs and staff time devoted to the working group is not included here.

The breakdown of spending is as follows:

Supplier	Description of Services	Cost €	VAT €	Total €
Midland Environmental Services	Kitchen Caddies (5000)	8,325	1,915	10,240
Mattiussi Ecologica	Paper Liners for Caddies (250k)	8,865	2,039	10,904
Waste to Zero	Delivery of Household Packs & Bin stickering in Trim & Borrisoleigh	10,605	2,439	13,044
Southern Advertising	Design of Communication tools	480	110	590
Davis Printers	Printing of Communication Tools	1,335	307	1,642
Donegal Event Management	Bin stickering in Buncrana	1,350	310	1,660
Galocon Media	PR Services	1,068	246	1,314
TOTAL		32,048	7,366	39,414

An integral part of the pilot project is to investigate potential costs of scaling up the rollout of the project regionally or nationally. Here is a breakdown of the different cost centres:

As it stands, the costs per household from this pilot project are as follows:

Action	Unit Cost	VAT	Total
Bin Sticker only (Rural Area)	€2.25	€0.51	€2.77
Cost of procuring Household Pack (Caddy, Liners & Communication Tools)	€4.18	€0.96	€5.14
Delivery of Household Pack & Bin Stickering	€3.11	€0.72	€3.83



10. Recommendations and Conclusions

The pilot Food Waste Recycling Project set out to test the effectiveness of a household pack containing practical kitchen tools to separate food waste within the home along with a series of communication tools to explain clearly the positive benefits to separating food waste.

In 2019, 53% of all households in Ireland are serviced with a full three-bin collection system, which includes the separate collection of food/bio-waste. During this same period 75% of households actively engaged with the service by presenting the food waste bin at least once in the previous quarter.

Negative perceptions about the separation of food waste have developed and are a significant barrier to participation.

Two other knowledge gaps of concern are clarity in understanding what food waste is and clarity in understanding that separated food waste means removing all packaging.

The Working Group is pleased with the outcome of the pilot project. In all four geographical areas, quality of separated food waste improved and tonnage increases of between 20 and 25% were recorded. The IWMA, DCCAE, Cré, and the WMPLA are to review this report to determine if the findings could be emulated to all households nationally.

Additionally customer feedback on the communication tools is very positive – customers participated fully in the trial and took time to read the materials provided. 96% of customers in Trim, that provided feedback declared the communication tools to be clear and helpful.

Some citizens have limited understanding about the importance of why it is necessary to separate food waste. During these trials, citizens in the pilot towns re-engaged and as a result presented more and better food waste. This comment perhaps sums this up:

“I ONLY RARELY USED MY BROWN BIN PRIOR TO THIS STARTING AND NOW IT’S USED AS MUCH IF NOT MORE THAN MY WASTE BIN”



It is the opinion of the working group that the communication tools developed during this pilot project are useful and engaging and there is great merit in pursuing a wider distribution of these materials. Positive communications are always valuable and linking the separation of food waste to the creation of compost or green energy adds to the public's understanding of the circular economy and the creation of green jobs – positive actions are more likely to be sustained than negative ones.

The kitchen caddy and liners had a significant impact on behaviour in the pilot– the caddy is a visual reminder to separate at source. The liners play a big role – alone they reduce or in some instances eliminate the “yuck” factor in source segregating food waste. We know from previous trials and customer feedback that behaviour can revert if a caddy or food waste-recycling bin gets dirty and smelly – maintaining cleanliness is an important driver for householders. We were surprised at the number of householders that ranked the liner as very important, replaced their supply with store bought liners when they ran out and continued to participate. This had not happened in the Sligo pilot so participation dropped off much faster there.

The paper liner was not universally liked, householders found it difficult to insert in the caddy, and claimed it had the potential to leak. Overall customers preferred to use a “bio plastic” liner.

The sticker on the residual bin was in the most part ineffective, except in Buncrana where it was the only tool used. It leads the working group to the conclusion that the drivers for the source segregation of food waste must be internal to the home. Reminders on an external bin are ineffective because the action of segregation has already taken place.

During our pilot development stages we discussed at length the conundrum of what the third bin is called – organic, food, brown are all used and sometimes interchanged. At the outset, the working group unanimously agreed to call the third bin the “Food Waste Recycling Bin” throughout the pilot. However once we reached rollout stage the feedback from across the waste collection industry was not as positive. Most collectors felt the use of both words – food and recycling is confusing and they would prefer Food Waste Bin.

Another unique part of this trial was the source of messaging – from the outset the Working Group believed in the importance of the message coming from the waste service provider to their customer. We believe this led to more householders participating in the trial than if it had been conducted by a third party such as the local authority. We believe that customer communications are very important in getting people “to do the right thing” – in this instance, we were appealing to households to play their part in separating food waste in order to protect the Irish environment and create green jobs in Ireland.

The working group believe that a wider rollout of elements of this Pilot project has the capacity to:



Grow and sustain the separation of food waste by all citizens;



Reduce contamination particularly of packaging and plastic liners in the food waste presented at the kerbside;



Increase the overall tonnage of source segregated food waste contributing to national and European waste targets;



Increase understanding and awareness by citizens of the role, they can play in Ireland's circular and green economy.

The Working Group recommendations based on this pilot project are:

1. Every new customer signing up to a waste collection service is provided with a kitchen caddy, a starter pack of liners and an information toolkit;
2. The information toolkit is revised and distributed to all existing customers eligible for a separate food waste collection;
3. Some waste collectors supply liners at cost price to customers, we would like to see this expanded to all waste collectors so that cost isn't a prohibitive issue for customers. This recommendation could, if implemented lead to less contamination as it reduces householders using plastic bags or non-certified bio bags to line caddies or bins;
4. Where possible waste collectors incentivise their customers to segregate food waste – we would like to encourage collectors to subsidise the household pack and to provide this at a nominal fee to householders. The cost of the pack for this small pilot was €5.14 per household; this cost could be substantially decreased if procured in larger quantities. If a pack could be subsidised and supplied to a householder for €2.50 it would be an attractive offering. Additionally waste collectors have the ability to distribute the pack directly thereby reducing the financial cost of procuring distribution services.
5. We recommend that every waste collector be assisted by the My Waste Team to develop a communications campaign to engage with householders on why and how to separate food waste effectively. Communications with customers are recommended on a weekly basis. This would include emails, text alerts and letters. Additionally we believe that positive customer feedback could yield some additional behavioural changes. If waste collectors could communicate increases in tonnage or decreases in contamination directly with their customers we believe this would contribute significantly to customers continuing to participate positively with the separation of food waste.
6. The IWMA, DCCAE, Cré and the WMPLA are to review this report to determine if the findings could be emulated to all households. It is imperative that we understand and address the barriers to participation. Of equal importance is addressing the poor presentation of waste by householders as evidenced in the EPA 2018 waste characterisation study. With 17% of organic waste present in the residual and recycling streams there is great scope for improvement.



Appendix I:

Lessons from Ballaghaderreen supplied by Barna Recycling:

Barna Recycling chose to deliver the household packs and place stickers on the residual bins using their own personnel. A crew of three was deployed to follow the bin route in Ballaghaderreen on the chosen day and they were identifiable as Barna Recycling staff.

80% of bins were stickered and packs delivered on the first round.

Staff interacted with customers and in general, they received a positive response from the householders.

The online customer survey carried out four months after the delivery of the household packs and bin sticker, unfortunately yielded a poor participation rate despite an incentive to win a voucher.

Overall, it appears that most people found the food waste bin easy to use and provision of the caddy and liners were an incentive to use the bin.

Management at Barna Recycling was surprised that over 50% of respondents to the survey do not realise that it is "illegal" to place food waste in the residual waste.

On foot of this pilot project, management at Barna Recycling has decided to issue the household pack and associated communication tools to all new customers that are entitled to a food waste collection service.

Appendix II:

Lessons from Trim & Borrisoleigh supplied by Waste to Zero:

STICKERING

- Weather is a big factor in Sticking efficiency (Rain-Sticker won't stick, Frost-scraping takes too long, Wind-sticker crumples)
- Winter season reduces daylight hours for Delivery and Sticking
- Bin Type affects the Sticker adhesion (Multiple Raised Logo's on Lid, Lid surface finish)
- Existing Collector's Sticker already on the lid
- A few Bin lids were cracked
- Waste Bin colour-not all waste bins are Grey (Some are Green, Red)
- Sticker Wording-A Thornton's Operative suggested the word "Recycling" be removed from the Sticker as it may confuse people i.e. with the Recycling Bin! (It could say "Please use your Brown Food Bin")
- Householders put bins out at last minute, then bring them in straight after collection-not possible to keep up with truck

CADDY DELIVERY

- Recording house numbers-No numbers on houses in Town centre streets, not such a big issue in Estates, although not always in sequence!
- Houses directly on the street with no porches – couldn't leave bins due to trip hazard/safety
- Time consuming working in rural areas and Town Centres V's Estates.
- Unable to pre-pack paper bags into Caddies while inserting other leaflets as Caddies would not stack for delivery.
- Question most frequently asked is: "Where do we get more of the bags?"
- Some householders thought they could put the 7L food bins out for collection.
- Saw one bin with tag in Borrisoleigh
- Lifting equipment (Fork truck) required at storage facility in larger town to load pallets of Caddies/Paper Bags.

Appendix III:

Communication Tools

Leaflet



General waste bin sticker



Caddy sticker



Report on The Food Waste Recycling Pilot Project

2018-2020

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